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AD No. \_\_\_\_\_

TECOM Project No. 7-CO-R90-AVO-004

METHODOLOGY INVESTIGATION

FINAL REPORT

AVIATION TEST MANAGEMENT

SYSTEM CONCEPT

DEVELOPMENT

Mr. Larry Wise

A-1

Data Services Branch  
Technical Test Support and Logistics Division

UNITED STATES ARMY AVIATION TECHNICAL TEST CENTER

FORT RUCKER, ALABAMA 36362-5276

NOVEMBER 1990

Prepared for:

Commander

U.S. Army Test and Evaluation

Command

ATTN: AMSTE-TC-D

Aberdeen Proving Ground, MD 21005-5055

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ABERDEEN PROVING GROUND, MARYLAND 21005-5555

AMSTE-TC-D (70-10p)

22 MAY 1991

MEMORANDUM FOR Commander, U.S. Army Aviation Technical Test  
Center, ATTN: STEAT-TS-D, Fort Rucker, AL  
36362-5276

SUBJECT: Approval of Final Report, Methodology Investigation,  
Aviation Test Management System Concept Development, TECOM  
Project No. 7-CO-R90-AV0-004

1. Subject report has been approved by this headquarters.
2. Point of contact at this headquarters is Mr. J. Piro, AMSTE-  
TC-D, amstetcd@apg-9.apg.army.mil, DSN 298-3677/2170.

FOR THE COMMANDER:

*Kenneth Ballut*  
FREDERICK D. MABANTA  
C, Technology Development Division  
Directorate for Technology

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SECURITY CLASSIFICATION OF THIS PAGE

Form Approved  
OMB No. 0704-0188

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>		1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION / AVAILABILITY OF REPORT	
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE			
4 PERFORMING ORGANIZATION REPORT NUMBER(S) <b>7-CO-R90-AV0-004</b>		5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION U.S. Army Aviation Technical Test Center	6b. OFFICE SYMBOL (If applicable) <b>STEAT-TS-D</b>	7a. NAME OF MONITORING ORGANIZATION	
5c. ADDRESS (City, State, and ZIP Code)  Fort Rucker, AL 36362-5276		7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING / SPONSORING ORGANIZATION U.S. Army Test and Evaluation Command	8b. OFFICE SYMBOL (If applicable) <b>AMSTE-TC-M</b>	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
3c. ADDRESS (City, State, and ZIP Code)  Aberdeen Proving Ground, MD 21005-5055		10. SOURCE OF FUNDING NUMBERS	
		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification)  <b>Methodology Investigation, Aviation Test Management System Concept Development</b>			
12. PERSONAL AUTHOR(S) <b>WISE, Larry</b>			
13a. TYPE OF REPORT <b>Final Methodology Invest.</b>	13b. TIME COVERED <b>FROM 1Aug89 to 30Sep90</b>	14. DATE OF REPORT (Year, Month, Day) <b>1990 November 30</b>	15. PAGE COUNT <b>15</b>
16. SUPPLEMENTARY NOTATION			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) <b>Methodology Investigation Aviation Test Management System Concept Development</b>	
FIELD	GROUP	SUB-GROUP	
19. ABSTRACT (Continue on reverse if necessary and identify by block number) <p>The United States Army Aviation Technical Test Center (ATTC), Fort Rucker, Alabama, conducted this methodology investigation on Aviation Test Management System Concept Development. The objectives were (1) to investigate the feasibility of implementing a computerized project management system at ATTC; (2) to investigate the current project management concept to determine a list of requirements and specifications to consider in the selection of a state-of-the-art project management software package; (3) to investigate the necessary changes in the current project management concept to more effectively utilize a computerized project management system; and (4) to review, test run, select, and procure a state-of-the-art project management software package that most nearly meets the needs at ATTC. The conclusions were (1) the current system of project management at the ATTC is inadequate and is a reactive system rather than a proactive system; (2) a state-of-the-art project management software package could provide the resource profile information necessary to manage projects from a proactive perspective rather than a reactive perspective; (continued)</p>			
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>	
22a. NAME OF RESPONSIBLE INDIVIDUAL <b>Larry Wise</b>		22b. TELEPHONE (Include Area Code) <b>(205) 255-8068</b>	22c. OFFICE SYMBOL <b>STEAT-TS-D</b>

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NOT USED

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## SECTION 1. SUMMARY

### 1.1 BACKGROUND

The U.S. Army Aviation Technical Test Center (ATTC) conducts a large number of test projects simultaneously that vary a great deal in execution time, test subject, site, parameters measured, or a number of other characteristics, yet utilize a common pool of resources such as aircraft, manpower, etc. An efficient test management system is needed to provide the customer the best test dollar value. To efficiently manage and execute a specific test project, it is necessary to plan the execution of the project very well and then monitor the actual progress of the project in order to make timely management decisions on the course of execution until the project objectives have been met. Since the project shares a pool of common resources, the availability of these resources greatly influences the planning as well as the execution. The test management system employed needs to manage the total set of projects instead of each individual project.

### 1.2 PROBLEM

Test projects are currently being managed by assigned personnel acting in the capacities of test coordinators, test directors, etc. Although there are test project specifics that these personnel need to consider in managing the projects, there is a need to know the total project management picture as to resource availabilities, resource commitments, etc., as well. Resource profiles, both planned and actual, are not currently available to provide the total picture required by the managing personnel.

### 1.3 OBJECTIVES

1.3.1 To investigate the feasibility of implementing a computerized project management system at the ATTC.

1.3.2 To investigate the current project management concept to determine a list of requirements and specifications to consider in the selection of a state-of-the-art project management software package.

1.3.3 To investigate the necessary changes in the current project management concept to more effectively utilize a computerized project management system.

1.3.4 To review, test run, select, and procure a state-of-the-art project management software package that most nearly meets the needs at ATTC.

### 1.4 PROCEDURES

1.4.1 This methodology investigation was not centered around only one test, but rather was generalized so that results can be applied to all tests.

1.4.2 The current system employed by ATTC was studied to evaluate and determine good points as well as weaknesses.

1.4.3 From August through September 1989, an investigation was conducted to determine the features that a project management software system should have.

1.4.4 In October 1989, a project management symposium was attended at Atlanta, GA. The symposium consisted of 3 intensive days of exhibitions and presentations by experts in the field of project management. The topics addressed not only various software products, but also and more importantly, the implementation of such a system to fully reap potential benefits.

1.4.5 From October through November 1989, ATTC evaluated several state-of-the-art project management software systems to determine what the benefits could be in utilizing such a package in order to computerize project management. The products evaluated included "View Point," "Open Plan," "Super Project," and "Project Workbench" as well as others.

1.4.6 After evaluation of the results from the above procedures, the last step in this project was selection and procurement of a project management software package.

## 1.5 RESULTS

1.5.1 At the present, there is insufficient information as to the resource availabilities and commitments to efficiently manage the total set of projects. Current ATTC software programs are designed more for accounting purposes and lack proper detail for test project planning as well as actual progress information.

1.5.2 The present ATTC management architecture is a hierarchical tree with the flow of information traveling up and down branches. This does not permit the ease of communication that is necessary to manage the total set of projects efficiently. The constant changing of personnel hinders implementation of any manual project management system.

1.5.3 During the project management symposium, it was learned that a matrix-based management system enables a much better flow of information and communication than a hierarchical tree-based system. It was also learned that communication among the various work elements is the major problem in efficient project management whether a manual or computerized system is being utilized.

1.5.4 A state-of-the-art project management software package could be utilized to make resource profiles, both planned and actual, available to enable a better decision-making base for planning new test projects as well as managing ongoing projects. The desired features include (1) user friendliness, (2) a graphic interactive interface, (3) ability to zoom in and localize on a specific set of projects, (4) ability to zoom out and

encompass the entire spectrum of test projects, (5) ability to import and export data to and from other software systems currently in place, (6) ability to permit customized reporting, (7) ability to quickly and easily analyze and evaluate "what if" type changes to an existing project schedule, (8) ability to easily determine resource overloads, the causes and possible solutions, and (9) compatibility with a Novell-based local area network.

1.5.5 "View Point" was selected as the project management software system that afforded the best computerized project management system for the needs at ATTC. "View Point" was procured and received in May 1990. A 3-day training session was conducted for ATTC personnel in July 1990.

## 1.6 ANALYSIS

None.

## 1.7 CONCLUSIONS

1.7.1 The current system of project management at the ATTC is inadequate and is a reactive system rather than a proactive system.

1.7.2 A state-of-the-art project management software package could provide the resource profile information necessary to manage projects from a proactive perspective rather than a reactive perspective.

1.7.3 "View Point" was selected from the evaluation of several state-of-the-art project management software packages.

## 1.8 RECOMMENDATION

A follow-on study be conducted to determine the best methodology for implementing "View Point" at ATTC.

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SECTION 2. DETAILS OF INVESTIGATION

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SECTION 3. APPENDICES

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## APPENDIX A. DIRECTIVE



REPLY TO  
ATTENTION OF

AMSTE-TC-M (70-10p)

DEPARTMENT OF THE ARMY  
HEADQUARTERS, U.S. ARMY TEST AND EVALUATION COMMAND  
ABERDEEN PROVING GROUND, MARYLAND 21005-6000



8 OCT 1990

MEMORANDUM FOR Commander, U.S. Army Aviation Development Test Activity, ATTN: STEBG-MP-P, Fort Rucker, AL 36362-5276

SUBJECT: FY90 RDTE Methodology Improvement Program Grant

1. Reference Draft TECOM Regulation 70-17, dated 1 July 1989, TECOM Methodology Improvement and Standardization Programs.

2. This memorandum advises that grants have been made for the investigations listed in encl 1 under the TECOM Methodology Improvement Program 1W665702D628.

3. The MIPs as summarized in the FY 90-96 MASTER MIND (encl 2) are the basis for headquarters approval of the investigations.

4. Special instructions:

a. It is expected that literature searches were conducted prior to submitting methodology investigation proposals (MIPs). Further searches should be made prior to starting investigations to ensure that recent work performed by others will not change or obviate the needs for investigations about to begin.

b. All reporting, including final technical reports prepared by contractors, will be in consonance with paragraph 2-6 of the reference. The final report will be submitted to this headquarters, ATTN: AMSTE-TC-M, inconsonance with Test Event 570/580. Each project shall be completed in FY90 as reflected in the scheduling.

c. Recommendations for new TOPs or revisions to existing TOPs will be included as part of the recommendation section of the final technical report. Final decision on the scope of the TOP effort will be made by this headquarters as part of the final technical report approval process.

d. The addressee will determine whether any classified information is involved, and will assure that proper security measures are taken when appropriate. All OPSEC guidance will be followed strictly during each investigation.

e. Prior to investigation execution, the test activity will verify that no safety or potential health hazards to humans participating in testing exist. If safety or health hazards do exist, the test activity will provide a safety/health hazards assessment statement to this headquarters prior to investigation initiation.

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SUBJECT: FY90 RDTE Methodology Improvement Program Grant

f. Environmental documentation for support tests or special studies is the responsibility of the test activity and will be accomplished prior to initiation of the investigation.

g. Upon receipt of this grant notification, test milestone schedules as established in TRMS II data base will be reviewed in light of other known work load and projected available resources. If rescheduling is necessary and the sponsor nonconcurs, a letter citing particulars, together with recommendations, will be forwarded to Commander, U.S. Army Test and Evaluation Command, ATTN: AMSTE-TC-M, with an information copy to AMSTE-TA-0, no later than 15 calendar days from the date of this memorandum. Reschedules concurred in by the sponsor can be entered directly along with a properly coded narrative by your installation/test activity.

h. All work shall be performed such that energy conservation is considered throughout the effort.

i. FY90 RDTE funds authorized for the investigations are listed on encl 1. GOA Form 1006 will be forwarded by the TECOM Resource Management Directorate. A cost estimate shall be submitted within 30 days following receipt of this grant notification.

5. Point of contact, this headquarters, is Mr. Roger L. Williamson, AMSTE-TC-M, amstetcm@apg-emh4.apg.army.mil, AUTOVON 298-3677/2170.

FOR THE COMMANDER:



GROVER H. SHELTON  
Chief, Meth Imprv Div  
Directorate for Technology

2 Encls

AVIATION DEVELOPMENT TEST ACTIVITY

INITIAL  
FUNDING

7-CO-R90-AV0-001	QUICK REACTION METHODOLOGY	10.0
7-CO-R90-AV0-002	TECHNICAL COMMITTEE SUPPORT	5.0
7-CO-R90-AV0-003	AIRCRAFT LOGBOOK DATA ADACS AUTOMATION II	93.0
7-CO-R90-AV0-004	AVIATION TEST MGMT SYSTEM CONCEPT DEVELOPMENT	0.0
	TOTAL AVNDA PROGRAM	108.0

## APPENDIX B. DISTRIBUTION

<u>ADDRESSEES</u>	<u>REPORTS</u>
Commander U.S. Army Test and Evaluation Command ATTN: AMSTE-TC-D Aberdeen Proving Ground, MD 21005-5055	3
Director Defense Technical Information Center ATTN: DDA Cameron Station Alexandria, VA 22314-6145	2
Director U.S. Army Material Systems Analysis Activity (AMSAA) ATTN: AMXSY-MP (Mr. Cohen) Aberdeen Proving Ground, MD 21005-5071	1